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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MORILLO, JANEL COMBS

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/633,336	Applicant(s) BAUMANN ET AL.	
	Examiner Janelle Combs-Morillo	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
 4a) Of the above claim(s) 9-22 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38-41 is/are allowed.
- 6) ☒ Claim(s) 1-8, 23-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 9-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected process for working and heat treating an aluminum alloy, there being no allowable generic or linking claim. Election was confirmed **without** traverse in the reply filed on December 1, 2004.

Claim Interpretation

2. In claim 37 line 2, “large” is interpreted to be analogous to “course”, as described in the specification at [0034], etc. If this interpretation is not consistent with applicant’s intended interpretation, please clarify (including where said interpretation is found in the original specification) in response to this action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 37 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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The original specification does not provide support for said aluminum alloy “substantially free of large grain intermetallic compounds”. The instant specification at [0014] mentions “rapidly cooling casting conditions that substantially avoid the formation of primary intermetallic solidification compounds”, at [0029] “Such high cooling rates assure the formation of small diameter intermetallic particles”, [0034] “In addition, the formation of coarse primary Fe-bearing intermetallic phases was largely avoided”, orig. claim 9 “said casting including a solidification rate of greater than about 200 C/sec to substantially avoid formation of primary intermetallic solidification compound”. The examiner submits that “coarse” is interpreted to be analogous to “large” (see Claim Interpretation, above). However, avoiding “large grain intermetallic compounds” (in general) is not supported by avoiding the formation of primary intermetallic solidification compounds or avoiding the formation of coarse primary Fe bearing intermetallic compounds, etc.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5, 7, 23, 24, 26, 28-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris (US 3,989,548).

Morris teaches an Al-Fe alloy preferably comprising (in weight%): 1.7-2% Fe, 0.5-1% Si, 0.5-0.9% Mn, less than 0.3% Cu, and less than 0.3% Mg (column 9 lines 19-21), which

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overlaps or touches the boundary of the presently claimed alloying ranges. Morris does not teach the presence of In, Ti, or Zr, and therefore the alloy taught by Morris is held to have substantially zero of said elements.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Concerning independent claim 23, Morris does not teach that finstock for heat exchangers is made out of said alloy composition. However, it would have been obvious to one of ordinary skill in the art to have formed the alloy taught by Morris into thin sheet suitable for heat exchanger finstock, because Morris teaches said alloy can be rolled into very thin sheet 0.1-0.0004 inches (wherein 0.0004 inches = 10.2 μm , column 7 lines 51-53), wherein said sheet exhibits good mechanical properties (column 1 lines 19-20) even when subjected to brazing (column 7 line 44-46).

Concerning dependent claims 2-5, 7, 24, 26, 29-36, as stated above, Morris teaches an overlapping alloy composition.

Concerning instant claim 28, as stated above, Morris teaches that said alloy can be rolled into a very thin sheet with a thickness of 0.1-0.0004 inches (wherein 0.0004 inches = 10.2 μm , column 7 lines 51-53), which overlaps the presently claimed thickness gauge.

Concerning claim 37, which mentions said alloy is substantially free of large grain intermetallic compounds, Morris teaches said alloy is cast under conditions to avoid the formation of coarse intermetallic compounds (column 2 lines 1-2, etc).

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7. Claims 1-8 and 23-37 rejected under 35 U.S.C. 103(a) as being unpatentable over Crona (US 4,802,935).

Crona teaches an Al-Fe aluminum alloy preferably comprises (in weight%): 1.1-1.8% Fe, 0.1-0.4% Si, 0.25-0.6% Mn, up to 0.3% Cu (column 2 lines 34-36), and up to 2.0% Zn (abstract), which overlaps or touches the boundary of the presently claimed alloying ranges (claims 1-8, 23-27, 29-36). Crona does not teach the presence of In, Ti, or Zr, and therefore the alloy taught by Crona is held to have substantially zero of said elements.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Concerning independent claim 23, Crona does not teach that finstock for heat exchangers is made out of said alloy composition. However, it would have been obvious to one of ordinary skill in the art to have formed the alloy taught by Crona into thin sheet suitable for heat exchanger finstock, because Crona teaches said alloy can be rolled into very thin sheet 0.03-0.6 mm (wherein 0.03 mm = 30 μ m, abstract), wherein said alloy sheet exhibits improved mechanical properties including high tensile and fatigue strengths (column 4 lines 58-60).

Concerning dependent claims 2-8, 24-27, 29-36 as stated above, Crona teaches an overlapping alloy composition.

Concerning instant claim 28, as stated above, Crona teaches that said alloy can be rolled into a very thin sheet with a thickness of 0.03-0.6 mm (wherein 0.03 mm = 30 μ m, abstract), which overlaps the presently claimed thickness gauge.

Concerning claim 37, which mentions said alloy is substantially free of large grain intermetallic compounds, Crona teaches said alloy is strip cast (column 2 line 44) under conditions to avoid the formation of coarse intermetallic compounds (column 2 lines 1-2, etc).

Response to Amendment/Arguments

8. In the response filed on December 1, 2004, applicant amended claims 1, 5, 6, 8, 23-25, 27 and added new claims 29-41.

Applicant's argument that the present invention is allowable over the prior art of record because "less than 0.5% Si" does not overlap a minimum of 0.5% Si has not been found persuasive (similarly, "greater than 1.8% Fe" is held to be a close approximation of 1.8% Fe). In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); Similarly, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Court held as proper a rejection of a claim directed to an alloy of "having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium" as obvious over a reference disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.).

Applicant's argument that the present invention is allowable over the prior art of record because the range of Si taught by Kawahara does not fall within the presently amended Si range has been found persuasive. The rejection in view of Kawahara has been overcome.

Allowable Subject Matter

9. Claims 38-41 are allowable over the prior art of record.
10. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach or suggest an aluminum alloy comprising the presently claimed narrow ranges of Si, Fe, Cu, Mn, Zn and Ti, substantially as presently claimed in independent claims 38 and 40.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCM

February 11, 2005


GEORGE WYSZOMIERSKI
PRIMARY EXAMINER